

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: YANG, TSUN-NEG

SERIAL NO.: 10/715,982

ART UNIT: 2881

FILED: NOVEMBER 18, 2003

EXAMINER: Quash, A.G.

TITLE: ION IMPLANTING APPARATUS

REMARKS ON AMENDMENT "A"

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In response to the Office Action of October 5, 2004, a response being due by January 5, 2005, please consider the following remarks in conjunction with the amendments to the above-identified application as follows:

REMARKS

Upon entry of the present amendments, previous Claims 1 - 13 have been canceled and new Claims 11 - 19 substituted therefor. Reconsideration of the rejections, in light of the foregoing amendments and present remarks, is respectfully requested. The present amendments have been entered for the purpose of distinguishing the present invention from the prior art.

In the Office Action, it was indicated that Claim 1 was rejected 35 U.S.C. § 103(a) as being obvious over the Ackley patent. Claim 2 - 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Ackley patent in view of the Nussupov patent. Claims 8 - 10 were rejected

as being obvious over the Ackley patent in view of the Berian patent. Claims 11 - 13 were rejected under 35 U.S.C. § 103(a) as being obvious over the Berian patent.

As an overview to the present reply, Applicant has extensively amended the claim language in the form of new independent Claim 14 and dependent Claims 15 - 20. New independent Claim 14 incorporates the limitations from original Claims 1 - 4. Dependent Claims 15 - 20 incorporate the limitations of previous dependent Claims 5 - 10, respectively. In particular, the claims have also been amended so as to place the claim language in a more proper U.S. format, including proper antecedent bases and proper structural interrelationships throughout. Any indefinite terminology found in the original claim language has been corrected herein. Additionally, where functional language has been recited, each of the claims includes proper “means-plus-function” recitations.

In particular, new independent Claim 14 discloses an ion implanting apparatus which includes “an implanting base having two guiding pillars with a guiding trench for guiding an irradiation tray”, “a current integrator electrically connected to the implanting and an insulative sleeve having a guiding slot”, and where “the two guiding pillars are positioned at two sides of the guiding slot”.

The Ackley patent discloses a base which is combination of a load lock 12 and an arcuate upper end 87. However, the present implanting base includes “two guiding pillars with a guiding trench for guiding an irradiation tray”, and in which “the two guiding pillars are positioned at two sides of the guiding slot”. This structure is shown in Figure 2 of the present application. The description of this structure is recited in paragraph [0014] of the original specification. The load lock 12 and the arcuate upper end 87 disclosed by the Ackley patent are far different from the guiding pillars of the implant base of the present invention. In fact, the arcuate upper end 87 of the blade

member 83, as disclosed in the Ackley patent, corresponds to a portion of the push plate. This should not be regarded as a portion of the implanting base of the present invention.

Furthermore, the Ackley patent discloses a guiding slot 85 (see column 7, lines 67), which is not “an insulative sleeve”. The present invention utilizes the insulative sleeve to electrically isolate the implanting base from all other components of the implanting apparatus so that the electric current generated by all ions irradiated onto the wafer under processing can be conducted to the current integrator for the calculation of the ion implanting dosage. The Ackley patent neither teaches nor suggests that the guiding plate 83 is insulative. The Ackley patent fails to teach or suggest the electrical connection of the current integrator to the implanting base. As such, Applicant respectfully contends that the present invention, as defined by independent Claim 14, is not obvious in view of the Ackley patent.

The Nussupov patent discloses a cassette which corresponds to the irradiation tray of the present invention. The Nussupov patent does not teach or suggest that the implanting base has two guiding pillars with a guiding trench for guiding a irradiation tray. The Nussupov patent fails to show the current integrator electrically connected to the implanting base. Additionally, and furthermore, the Nussupov patent fails to disclose the insulative sleeve as having a guiding slot. As such, the combination of the Ackley and Nussupov patents would still fail to disclose these features of independent Claim 14 of the present application. On this basis, Applicant respectfully contends that independent Claim 14 is patentably distinguishable from the prior art combination.

Applicant has revised paragraph [0014] of the specification herein. Paragraph [0014] describes the distinguishing structure of the present invention. In particular, this paragraph has been revised so as to further describe that which was illustrated in Figure 2. Numerical references have

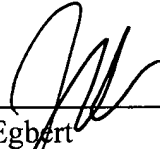
been included in paragraph [0014] corresponding to new Figure 2 added herein. Additionally, paragraph [0014] corrects for the term "isolative" sleeve so that such structure is now described as "insulative" sleeve 64.

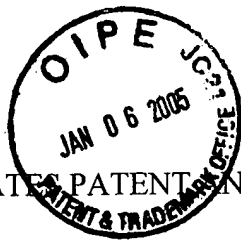
Applicant having a revised the Abstract so remove the legal terminology which appeared therein. Based upon the foregoing analysis, Applicant contends that independent Claim 14 is now in proper condition for allowance. Additionally, those claims which are dependent upon Claim 14 should also be in condition for allowance. Reconsideration of the rejections and allowance of the present claims at an early date is earnestly solicited. Since no additional claims have been added above those originally paid for, no additional fee is required.

Respectfully submitted,

Date

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AMENDMENT "A"

Amendment A: DRAWING AMENDMENTS

Please substitute the enclosed FIG. 2 in place of the originally submitted FIG. 2.